

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P333025

Luminaire Tested: **S124RDIW-S350D1050U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333025  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIW-S350D1050U835-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1050 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5622.4 lumens  
Efficiency: N/A  
Efficacy: 148.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

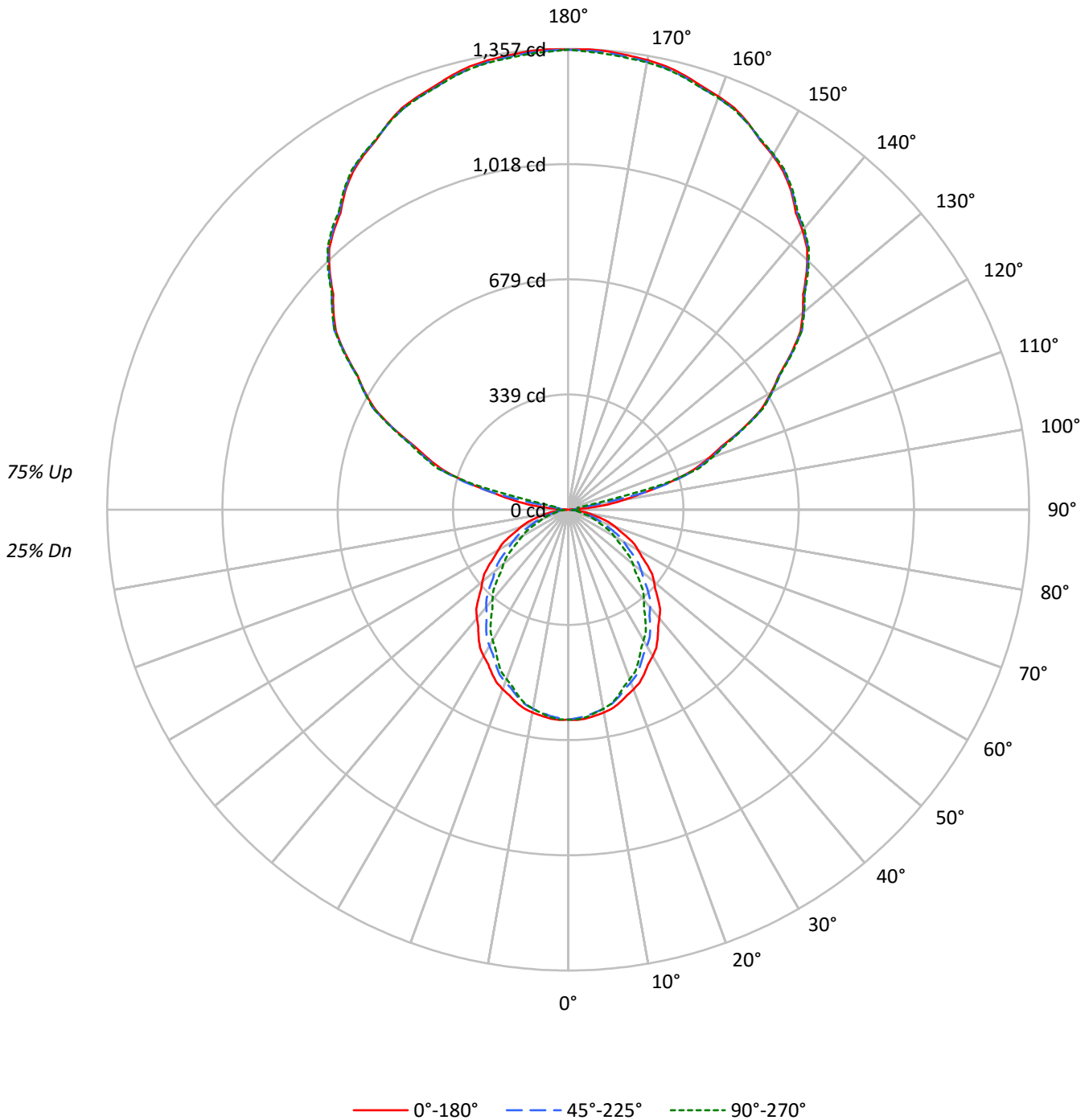
Input Watts (W): 38  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	25
1	92	88	85	81	82	79	76	73	61	59	57	45	44	42	30	29	29	22
2	84	77	71	67	75	69	64	60	54	50	48	39	37	36	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	23	22	21	16
4	70	60	53	47	62	54	47	43	42	38	34	31	28	26	21	19	18	14
5	64	53	46	40	57	48	41	36	38	33	29	28	25	22	19	17	16	12
6	59	48	40	35	53	43	36	31	34	29	25	25	22	20	17	15	14	10
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12	9
8	51	39	32	26	45	35	29	24	28	23	20	21	18	15	14	12	11	8
9	47	35	28	23	42	32	26	21	25	21	18	19	16	14	13	11	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	12	10	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.1	1.0
10°-20°	161.9	2.9
20°-30°	233.8	4.2
30°-40°	265.1	4.7
40°-50°	255.9	4.6
50°-60°	212.8	3.8
60°-70°	147.0	2.6
70°-80°	74.5	1.3
80°-90°	23.0	0.4
90°-100°	46.3	0.8
100°-110°	295.4	5.3
110°-120°	565.1	10.1
120°-130°	717.4	12.8
130°-140°	767.5	13.7
140°-150°	717.7	12.8
150°-160°	578.8	10.3
160°-170°	373.3	6.6
170°-180°	128.7	2.3
0°-30°	453.8	8.1
0°-40°	718.9	12.8
0°-60°	1187.7	21.1
0°-90°	1432.1	25.5
90°-120°	906.8	16.1
90°-150°	3109.5	55.3
90°-180°	4190.0	74.5
0°-180°	5622.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	3	14	22	28	30	4
95°	56	23	22	28	29	72
105°	305	311	316	323	289	319
115°	569	572	571	573	574	560
125°	800	804	802	805	806	714
135°	993	992	996	998	1000	765
145°	1145	1148	1148	1149	1151	715
155°	1255	1256	1253	1257	1254	579
165°	1324	1319	1319	1326	1318	374
175°	1355	1349	1350	1358	1346	129
180°	1355	1355	1355	1355	1355	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	9.3	9.1	9.0	8.8	8.6	8.7	8.9	9.2	9.5	9.8	9.9
90°	3.0	5.5	8.0	10.5	12.9	15.1	16.9	18.7	20.5	22.3	23.6
92.5°	12.8	12.9	13.0	13.2	13.3	14.3	16.1	17.9	19.7	21.5	22.8
95°	55.7	48.1	40.4	32.8	25.1	21.4	21.6	21.8	22.1	22.3	23.6
97.5°	118.3	123.1	127.9	132.7	137.4	127.3	102.1	77.0	51.9	26.7	26.9
100°	166.2	170.2	174.3	178.3	182.4	168.9	137.8	106.7	75.7	44.6	40.8
102.5°	219.7	222.6	225.6	228.6	231.5	231.0	227.0	222.9	218.8	214.8	173.5
105°	305.0	306.3	307.7	309.0	310.4	311.6	312.7	313.9	315.0	316.1	318.1
107.5°	384.2	384.9	385.5	386.2	386.9	388.0	389.5	391.1	392.6	394.1	395.1
110°	437.7	438.4	439.0	439.7	440.4	441.4	442.8	444.1	445.5	446.8	447.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	489.6	490.8	492.0	493.2	494.4	495.4	496.0	496.6	497.2	497.9	497.8
115°	569.4	570.1	570.8	571.4	572.1	572.3	572.1	571.9	571.7	571.4	571.9
117.5°	641.3	642.2	643.1	644.0	644.9	645.6	646.1	646.6	647.1	647.6	647.5
120°	690.0	690.9	691.8	692.7	693.6	693.9	693.7	693.5	693.2	693.0	693.5
122.5°	735.4	735.9	736.4	737.0	737.5	738.0	738.3	738.6	738.9	739.2	739.5
125°	800.4	801.3	802.2	803.1	804.0	804.2	803.8	803.3	802.9	802.4	803.1
127.5°	862.0	862.2	862.5	862.7	862.9	863.5	864.6	865.6	866.6	867.7	867.6
130°	901.7	902.0	902.2	902.4	902.6	903.1	903.8	904.4	905.1	905.8	906.0
132.5°	938.2	938.6	939.0	939.4	939.8	940.5	941.3	942.2	943.0	943.9	944.1
135°	992.9	992.7	992.5	992.2	992.0	992.4	993.3	994.2	995.1	996.0	996.4
137.5°	1041.3	1041.4	1041.5	1041.6	1041.7	1042.2	1043.2	1044.2	1045.2	1046.2	1046.7
140°	1073.0	1073.4	1073.9	1074.3	1074.8	1075.2	1075.7	1076.1	1076.6	1077.0	1077.7
142.5°	1101.3	1102.1	1102.9	1103.8	1104.6	1105.1	1105.4	1105.6	1105.9	1106.2	1106.7
145°	1144.9	1145.6	1146.2	1146.9	1147.6	1147.9	1147.9	1147.9	1147.9	1147.9	1148.2
147.5°	1179.5	1180.8	1182.1	1183.3	1184.6	1185.1	1184.9	1184.7	1184.4	1184.2	1184.4
150°	1204.7	1205.6	1206.5	1207.4	1208.3	1208.6	1208.4	1208.2	1207.9	1207.7	1207.7
152.5°	1225.7	1226.5	1227.2	1227.9	1228.6	1228.8	1228.4	1228.0	1227.6	1227.2	1227.5
155°	1255.3	1255.6	1255.8	1256.0	1256.2	1256.0	1255.3	1254.7	1254.0	1253.3	1254.2
157.5°	1280.3	1280.1	1280.0	1279.8	1279.7	1279.3	1278.5	1277.7	1277.0	1276.2	1277.4
160°	1294.8	1294.2	1293.5	1292.8	1292.1	1291.7	1291.5	1291.2	1291.0	1290.8	1292.1
162.5°	1307.8	1307.0	1306.1	1305.2	1304.4	1303.8	1303.6	1303.4	1303.2	1302.9	1304.3
165°	1324.2	1323.1	1322.0	1320.8	1319.7	1319.2	1319.2	1319.2	1319.2	1319.2	1321.0
167.5°	1337.2	1336.0	1334.9	1333.7	1332.5	1331.9	1331.7	1331.6	1331.5	1331.3	1333.3
170°	1344.5	1343.1	1341.8	1340.4	1339.1	1338.5	1338.7	1339.0	1339.2	1339.4	1341.2
172.5°	1349.3	1348.0	1346.6	1345.3	1343.9	1343.4	1343.6	1343.8	1344.1	1344.3	1346.1
175°	1354.6	1353.3	1351.9	1350.6	1349.2	1348.7	1348.9	1349.1	1349.3	1349.6	1351.6
177.5°	1357.0	1355.8	1354.5	1353.3	1352.0	1351.6	1351.9	1352.3	1352.6	1353.0	1354.4
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	10.1	10.3	10.5	10.7	10.9	11.0	11.2	11.4
90°	25.0	26.3	27.7	28.6	29.0	29.5	29.9	30.4
92.5°	24.2	25.5	26.9	27.6	27.7	27.8	27.9	28.0
95°	25.0	26.3	27.7	28.5	28.7	28.9	29.2	29.4
97.5°	27.0	27.2	27.3	27.5	27.7	27.9	28.1	28.4
100°	36.9	33.1	29.3	27.5	27.7	27.9	28.1	28.4
102.5°	132.2	90.9	49.6	29.0	29.0	29.1	29.1	29.2
105°	320.2	322.2	324.2	321.2	313.1	305.0	296.9	288.8
107.5°	396.1	397.1	398.1	399.0	399.9	400.7	401.6	402.4
110°	447.7	448.2	448.6	449.2	449.9	450.5	451.2	451.9





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CATALOG NUMBER: S124RDIW-S350D1050U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	497.7	497.6	497.5	497.9	498.8	499.6	500.5	501.3
115°	572.3	572.8	573.2	573.5	573.5	573.5	573.5	573.5
117.5°	647.4	647.4	647.3	647.2	647.1	647.0	646.9	646.8
120°	693.9	694.4	694.8	694.8	694.4	693.9	693.5	693.0
122.5°	739.8	740.0	740.3	740.2	739.8	739.3	738.9	738.4
125°	803.8	804.5	805.1	805.6	805.8	806.0	806.3	806.5
127.5°	867.4	867.3	867.1	867.0	866.8	866.6	866.4	866.3
130°	906.2	906.5	906.7	906.8	906.8	906.8	906.8	906.8
132.5°	944.3	944.6	944.8	944.8	944.6	944.4	944.3	944.1
135°	996.9	997.3	997.8	998.2	998.7	999.1	999.6	1000.0
137.5°	1047.2	1047.7	1048.2	1048.4	1048.2	1048.1	1048.0	1047.8
140°	1078.4	1079.0	1079.7	1080.2	1080.4	1080.6	1080.8	1081.1
142.5°	1107.2	1107.7	1108.2	1108.4	1108.5	1108.5	1108.6	1108.6
145°	1148.4	1148.6	1148.8	1149.2	1149.6	1150.1	1150.5	1151.0
147.5°	1184.6	1184.7	1184.9	1185.1	1185.4	1185.6	1185.8	1186.0
150°	1207.7	1207.7	1207.7	1207.8	1208.0	1208.3	1208.5	1208.7
152.5°	1227.9	1228.2	1228.6	1228.7	1228.6	1228.4	1228.3	1228.2
155°	1255.1	1256.0	1256.9	1257.0	1256.3	1255.7	1255.0	1254.3
157.5°	1278.5	1279.7	1280.9	1280.9	1279.7	1278.5	1277.4	1276.2
160°	1293.5	1294.8	1296.2	1296.2	1294.8	1293.5	1292.1	1290.8
162.5°	1305.6	1307.0	1308.3	1308.3	1306.7	1305.2	1303.7	1302.1
165°	1322.8	1324.6	1326.4	1326.2	1324.2	1322.2	1320.2	1318.1
167.5°	1335.3	1337.3	1339.2	1339.1	1336.9	1334.6	1332.4	1330.1
170°	1343.0	1344.8	1346.6	1346.4	1344.1	1341.9	1339.6	1337.4
172.5°	1347.9	1349.7	1351.5	1351.2	1348.7	1346.3	1343.9	1341.4
175°	1353.6	1355.6	1357.7	1357.3	1354.6	1351.9	1349.2	1346.5
177.5°	1355.9	1357.3	1358.8	1358.4	1356.2	1354.1	1351.9	1349.8
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6

(END OF REPORT)